INTERNATIONAL UNIVERSITY LIAISON INDONESIA

USE OF THE STATISTIC

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I.   STATISTIC

Statistics is a discipline concerned with the collection, organization, analysis, interpretation, and presentation of data that is often used in scientific, industrial, or social problems. Statistics is concerned with every aspect of data, including planning data collection in terms of survey and experimental designs (Merdeka.com, 2020). When census data cannot be collected, statisticians collect data by developing specific experimental designs and survey samples. Representative sampling ensures that the conclusions obtained can be extended from the sample to the population as a whole. (Badan Pusat Statistik, 2020)

An experimental study involves taking measurements of the system under study, manipulating the system, and then taking additional measurements using the same procedure to determine whether the manipulation has changed the values of the measurements (Rumusstatistik.com, 2021). In contrast, observational research does not involve experimental manipulation. (Bola.com, n.d.)

I.A   STATSTIC ACCORDING TO THE EXPERT

- **Anderson and Bancroft**

    Anderson and Bancroft think that the notion of statistics is an art and science of development and also a very effective method for the collection, tabulation, and interpretation of quantitative data. (Visiuniversal.blogspot.com, 2021)

    Which later an error in estimation and conclusion can be estimated using inductive reasoning and has been based on mathematical probability or probability.

- **Anto Dajan**

    Anto Dajan assumes that the notion of statistics is quantitative data, of which some have not been compiled and some have been arranged in a table form.

- **Prof. Dr. Sudjana, M.A., M.Sc.**

    Prof. Dr. Sudjana, M.A., M.Sc. assume that the notion of statistics is knowledge that is closely related to a method for data collection, processing and also analyzing data. And later will be able to draw conclusions based on the data collection and analysis that has previously been done.

- **Prof. Dr. H. Agus Irianto**

    Prof. Dr. H. Agus Irianto assumes that the notion of statistics is a group of methods or rules that are related to the collection, analysis, and also drawing a conclusion, from data that has the form of numbers using a certain assumption.

- **Croxton and Cowden**

    Croxton and Cowden assume that the notion of statistics is a method to be able to collect, manage, present and interpret data that has the form of numbers.

I.B   Uses of Statistics

Just like other methods, statistics also have several uses that can help humans in making decisions. Not only that, there are several other statistical uses, namely (Terraveu.com, 2020):

- Statistics are useful for getting an overview, examples such as a specific picture or a general picture of a situation, event and symptom.

- Statistics are useful for being able to perform a test, this will reveal whether one symptom is the same as another symptom or vice versa. If there is a difference, it is a meaningful difference or the difference has occurred only by chance.

- Statistics are useful to be able to follow a development or ups and downs of a phenomenon, event or situation from time to time.

- Statistics are useful for knowing whether one symptom has a relationship with other symptoms.

- Statistics are useful to be able to compile a report that contains quantitative data that is very concise, clear and organized.

- Statistics are useful to be able to draw a conclusion in a logical way, and can make a decision in a good and right way

In general, statistics are more likely to be used for those who work in the field of science and large-scale business to measure many things, including the government which also relies on statistical results to find out its people. But it's also not closed, we sometimes also often use statistics on a small scale with small goals too, The following are some applications of the use of statistics in life:

1. **Population Census**

    The population census is a procedure that is very well known and diligently carried out by the Central Bureau of Statistics every 10 years, that is, when the year numbers end. It also has the intention of being able to find out the development and growth that has occurred in the population in the last 10 years so that it can be used as several other fields that become the main points to be able to determine the policies they will take later. For example, there is population data that has been collected, so the economic sector can estimate and can also make a decision on determining the circulation of money that will occur later.

2. **Economic Census**

    The Central Statistics Agency also always carries out an activity which is often called an economic census every 10 years, The economic data that has been collected will definitely get results in the form of conclusions that can inform us whether the economy in our country is experiencing an increase or vice versa.

3. **Applied statistics, theoretical statistics and mathematical statistics**

    Applied statistics are two statistics in the form of descriptive and inferential while theoretical statistics concerns the logical arguments that underlie the justification of the approach to statistical inference, and includes mathematical statistics. Mathematical statistics includes not only the manipulation of probability distributions required to obtain results related to estimation and inference methods, but also various aspects of computational statistics and experimental design.

4. **Statistical computing**

    The rapid and continuous increase in computing power starting from the second half of the 20th century has had a profound impact on the practice of statistical science.

Early statistical models were almost always of the linear model class, but with powerful computers coupled with appropriate numerical algorithms, it led to increased interest in nonlinear models (such as neural networks) and the creation of new types, such as generalized linear models and stratified models.

5. **Marketing a Product**

In the field of marketing, statistics are often used to assist producers and distributors in determining the type of goods and also how many goods they must produce and then distribute to the outside. The goods distributed will be selected, according to the goods that are most in demand by consumers. Not only that, statistics in marketing can also be used for product research and development, segmentation, potential analysis, pricing, and so on

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